

January Meeting  
 Tuesday, January 26<sup>nd</sup>, 1998  
 12:00 Noon  
 Rosie's Rib Joint  
 8125 E. 49th Street  
 Tulsa, OK

## January Chairman's Report By Don Dobbs

Our world of engineering and communications is moving faster and faster. The new computer you bought over Christmas is no longer state of the art. Satellite-delivered programming is gaining customers faster than any thought possible. Internet access used to be something limited to colleges and universities. Today, the internet signs on 175,000 new users everyday.

Sometimes the best way to look at the future is to look back at the past. There are many similarities to the changes going on in the broadcasting industry to what has taken place in motion picture exhibition. Motion Picture palaces were the cornerstones of the local communities. The significance of the movie palace to those who attended this is difficult to appreciate especially now, when television is such a pervasive influence. More than just the primary source of news and entertainment, the theaters were the local gathering spot, the centers of downtown nightlife. Soon, those entertainment centers sat empty, unable to attract the large audiences that made their existence possible. Motion Picture palaces gave way to the multiplex theaters. These theaters fill about the same number of seats that the palaces once did, but they do it with multiple programming options and lower cost of operation per screen.

Consolidation is taking place at an unprecedented rate in the broadcast industry. These consolidations can be wonderful assets and models of efficiency. They can generate higher ratings and lower variable and fixed costs of operation. This consolidation can have a dark side however. Market segmentation is an obvious trend when faced with so many program choices.

## For Tulsa SBE Meeting January 26th DPO, (H)DTV, 601 and Picture Quality

The times are changing and with all the new terminology who can keep up. Chris Noland with Tektronix Measurement Business Division will discuss the problems and issues that we going to have to overcome in the near future.

Digital Phosphor Oscilloscopes is a new technology that gives the look and feel of an analog scope with the triggering and storage of a digital scope. Tektronix is driving this new technology from high end lab scopes to lower general purpose scopes. Digital Television is the future and with more than 31 flavors the future is a little unclear. Prepare for the future and improve your knowledge. Some of the hot topics are:

(H)DTV and how to measure and monitor are a top priority and Chris will cover the following hot topics:

- 1080i & 720P issues
- 1.5Gbit monitoring
- Picture Quality
- Up-conversion Issues

601 Monitoring is still a strong topic and is going to be a step that most follow. The topics Chris will discuss are

- The Component waveform
- Jitter Measurements
- Diamond Display
- Arrow Head Display
- Digital Audio

[www.broadcast.net/~sbe56](http://www.broadcast.net/~sbe56)

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**Meeting Information**

Chapter meetings are held at 12:00noon on the fourth Tuesday of each month, except December, at Rosie's Rib Joint, 8125 E. 49th Street, Tulsa OK

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**SBE Jobline Information**

If you have a job opening you wish to place on the SBE JobLine, please fax, e-mail, or mail the job description, along with the contact information, to Teresa Randsell at the SBE National Office in Indianapolis at [transdell@sbe.org](mailto:transdell@sbe.org) or fax at (317) 253-0418.

**Society of Broadcast Engineers Chapter 56, Inc.  
November Meeting Minutes**

A regular meeting of SBE Chapter 56 was held on Tuesday, November 24, 1998 at Rosie's Rib Joint in Tulsa, Oklahoma. The meeting was called to order at noon by Don Dobbs, chairman.

**Minutes**

The minutes of last month's meeting were approved by voice vote.

**Newsletter**

Bill Lee reported that we have switched printers, from Kinko's to Office Depot. They are about \$10.00 cheaper. Bill is also working on weeding out non-active, non-members from the newsletter mailing list.

**Certification Report**

Don Dobbs Announced the New SBE certification exam dates are Feb. 10-20, April 20, June 11-21, August 18-28 and November 12-22.

**Frequency Coordination**

Roger Herring gave the Frequency report for Larry Miller. There has been activity in the 450-451MHz and the 455-456Mhz range.

**Web Site Report**

Gerald Weaver reported that the web site activity increased by 10-15 more hits than last month. He is working with Larry Miller to add Frequency Coordination to the Web Site.

**Internship Committee Report**

Roger Herring reported no activity for this month.

**EAS Report**

Roger Herring reported. Chief Engineers if you are not receiving your weekly tests please let the EAS know.

**OAB Convention**

Roger Herring reported several vendors are lined up to provide seminars.

**November's Program**

Ron Fisher gave a demonstration of testing analog and digital audio precision products and a personal R.F. Field monitoring device.

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## SBE's Short Circuits

January 1999

A Monthly Update from the Society of Broadcast  
Engineers

This issue of SBE Short Circuits features news for you and all SBE members. Please feel free to use the information contained in this newsletter for announcements at meetings and in your chapter newsletter.

John L. Poray, CAE  
Executive Director

### SBE MEETINGS AND EVENTS SCHEDULED FOR NAB'99

SBE has announced its schedule of meetings and events to be held in conjunction with the NAB Spring Convention in Las Vegas, April 17-22. The schedule follows: Saturday, 4/17 - Certification Committee Meeting, Royal Salon, Las Vegas Hilton Hotel 6:30 pm Sunday, 4/18 - Board of Directors Meeting, Embassy Salon, Las Vegas Hilton Hotel, 8:30 am Monday, 4/19 - Frequency Coordinators Meeting, Conf. Room 13, Las Vegas Hilton Hotel, 1:30 pm Ennes Trust Meeting, Conference Room 14, Las Vegas Hilton, 3:00 pm Tuesday, 4/20 - Certification Exams, Conference Room 13, Las Vegas Hilton Hotel, 9:00 am Membership Meeting, 5:30 pm, Room N250, Las Vegas Convention Center

The Broadcast Engineering Conference, co-presented by SBE and NAB, will be held Sunday through Thursday. The Ennes Workshops will be one of the Conference session tracks offered on Wednesday (not on Saturday as was done the last two years). Admittance to the Ennes Workshops is included with Full Convention Registration. There is no additional fee. Exhibit Only registrants will not be able to enter (NAB policy).

**MEMBERS GET DISCOUNTED NAB REGISTRATION**  
Registration has opened for NAB'99. SBE members will again be able to take advantage of discounts to the NAB Convention this April in Las Vegas. SBE members will get the NAB Member rate off the full conference fee. This is a savings of \$330! Six times the cost of one year of SBE dues! NAB will mail registration information to all SBE members later in January. If you don't get one by early February, call NAB Conventions at (800) 424-8806 and request that one be sent to you.

### ALABAMA ENNES WORKSHOP DETAILS ANNOUNCED

The Ennes Workshops announced last month for Montgomery, Alabama will include sessions on System and Facility Grounding, Power Conditioning and Lightning Protection, Destination HDTV (the road map from Analog to Digital to HDTV), The Basics of T1 Digital Communications Links for Broadcasters and The Advantages and Growing Use of Fiber Optics in Broadcast. The workshops will be held February 27 at the Colonial Bank Building in downtown *Contn'd page 5*

## The Ham's Corner Jan99

By Glenn Thomas

One more new year and this one the last year before the year 2000. Yes, the one so feared because of the computer world. The last new century occurred before the age of the computer. I feel this new century will not cause that big a problem and what ever problem it causes will be quickly solved. I guess I based this statement on comments from my grandson who writes programs for an international company.

I trust you and yours had a wonderful Christmas and a Happy New Year. I will never forget a Christmas when my XYL gave me a new ham transceiver for Christmas. She even traded my old transceiver and a receiver I had on the new rig. That old tube rig is still on my operating desk but has been retired for a solid state one. Some how I have never been tempted to move that old rig. I would like a new rig but the current one is working well and a price tag of around \$3,000 makes that one seem pretty good.

I got a great surprise on Christmas my daughter and son-in-law gave me for Christmas a FT1000MP. It is on the operating desk and I am getting used to it. Sure a lot more controls then the old TenTec but you can bet the farm I will enjoy it for years to come. Over the Thanksgiving holidays I had some visitors from the fair states of Iowa and Illinois a nephew who started out as a broadcast engineer but has since changed over to hospital admission supervisor in the children's ward at the Iowa state hospital at Iowa City. He is also a licensed ham operator. Only like so many of us were at times in our lives he is too busy to spend much time on the air. They were here for the wedding of a daughter of my nephew who lives in Oklahoma City. The young couple is living here in Tulsa. We did get to catch up on old times.

I have promised myself I will be starting after Jan

**"After the last sun spot cycle I have not worked as many countries."**

1 to pick up my pursuit of WAS and DXCC. I have most of the cards on hand for WAS but do lack a number for DXCC. I am not certain if all my cards for DXCC will still be good. The world has changed so much and some of the countries have changed size and governments. I guess to be on the safe side it would be a good idea to have a number over the required 100 DX cards. After the last Sun Spot cycle I have not worked very many countries. With the return of activity on ten it would be a pretty good idea to get with it again.

I should get with it now as the doctor has ordered me to stay in the house for two weeks. Like no running around, for two weeks! I wonder if the XYL can stand me for that long around the house. I always *Cont'd Page 5*

**Tektronix**  
**“Basics” Testing - Tips**  
**Christopher B. Noland**  
Excerpts from application note “NTSC Video  
Measurements”

Working in video, the quality of your final product depends on many factors. Scripting casting, directing, and many other ingredients add together to make or break a production. Even when all the creative efforts are perfectly balanced, poor technical quality, and resulting poor picture quality can obscure all the hard work and skill invested. With the advent of digital television and up-conversion and down-conversion issues we need to focus on the fundamental and make sure the material is the best technically possible for analog video.

Many video facilities rely heavily on picture monitors for quality checks at various stages of production and distribution. A picture monitor, after all, displays the final product, the picture. It's a quick and easy means of ensuring that there are no obvious picture impairments. But picture monitors do not tell the whole story. In fact, relying solely on picture monitors for video quality checks can be an open invitation to disaster.

First of all, not all picture impairments are obvious on a picture monitor. Minor problems are easily overlooked. Some can not be seen at all. For example, a marginal video signal can still produce a seemingly “good” picture on a forgiving monitor. The end result can be a nasty surprise that can lead to costly remakes and missed deadlines.

A waveform is an instrument used to measure luminance or picture brightness as well as high frequency color signal call chrominance. An instrument called a vector scope is required for quality control of video chrominance, especially in more complex systems.

When used properly, these tools allow you to spot signal problems before they become picture problems. You can make certain that the signals are optimal, rather than marginal. With regular video system testing, you can catch minor degradations and performance trends that indicate a need for system maintenance. This allows you to avoid costly failures, both in equipment and program production or distribution.

For additional information on this application note please contact for local Tektronix Account Manager Chris Noland 972-871-5064 or christopher.b.noland@tek.com.

**Tektronix**  
**“Connecting and Terminating Instruments”**  
**Testing - Tips**  
**Christopher B. Noland**  
Excerpts from application note “NTSC Video  
Measurements”

Tektronix TV Test equipment, and most others, have a rear panel BNC connector. Many video tests, you only require to use one connector on each instrument. This is the connector marked TEST SIGNAL on the signal generator and the connector marked CH A INPUT on the waveform monitor or vectorscope.

Notice that there are actually two “loop-through” CH A connectors on both the waveform monitor and the vectorscope. If you feed the signal in one side of these inputs and out the other, the signal will pass through the instrument unaffected. This type of loop-through input lets you connect the same signal to more than one instrument.

For example, after running the test signal from the signal generator through the system under test and from there to a waveform monitor, you can then loop the signal through the waveform monitor into a vectorscope. Using the same method, you can also loop through the vectorscope to a picture monitor. This connection allows you to look at the same signal on all three-instrument displays. The order in which the instruments are connected does not matter; the connecting cables are short.

Coaxial cable does have a signal loss, the signal amplitude decreases as it progresses down the cable. For runs of a few feet, this decrease in amplitude is typically 1% or less and is usually ignored. For longer cable lengths, or when precision measurements are being made, the loss must be taken into account or corrected with a compensating distribution amplifier. Not only is coax lossy, the loss is a function of signal frequency. Higher video frequencies are attenuated more than the low frequencies.

Another important topic with cables and interconnections are to always remember to properly terminate each signal path. If a signal path is left “open” at the end, such as a high impedance loop-through with nothing connected on one side, several problems can result. The most obvious will be the change in signal amplitude on that path. With an open termination the amplitude will be higher than expected, usually about twice amplitude, depending on the signal source impedance. A double termination will result if an internally terminated loop-through and an external terminator are used on the same path. A double termination will often result in a two-thirds amplitude signal, again depending on source impedance.

For additional information on this application note please contact for local Tektronix Account Manager Chris Noland 972-871-5064 or christopher.b.noland@tek.com.

Cont'd From Page 3 have a lot of reading to catch up on so I guess I will survive. I have been reading all the ideas about the new licensing proposals being considered and presented to the FCC. The more I read about them the more I wonder if these people have the best interest of ham radio in mind. Maybe instead it is just some ideas a small number of hams wish to push for what ever reason. There is no doubt the future in ham radio will mean less government money spent on regulating and supervising the future of ham radio. I feel there are far too many classes of licenses and subbands for the FCC to keep track of. I also feel we need a volunteer group of hams to help police the bands before the FCC decides we are just too much trouble to put up with.

I was recently visiting with an active ham and his thoughts on the state of ham radio and its future was interesting. He belongs to a ARRL affiliated club and has for many years. His comment was it is hard to keep enough hams who belong to the ARRL on the rolls to keep them a ARRL ham club. He also said many of the older hams who do belong bring their ham magazines to the meeting to be given away to the hams there. The idea being younger hams might not be able to afford the subscription prices of today. Many times no body picks them up. He feels we older hams are not in tune with this younger group. Of course the cost of a subscription to both QST and say CQ along with a hand book and any other books on amateur radio becomes a major investment. I know it was when I first entered ham radio 50 some years ago. It could be the competition for the family dollar is greater now. It is some thing we all should be aware of and in touch with the ARRL and our Washington Representatives with our thoughts and wants.

73'S  
W5INU



Cont'd from Page 3 Montgomery from 9:00 am to 5:00 pm. Registration will open at 8:00 am. To register, call the SBE National Office at (317) 253-1640. Fee for members is \$39 while non-members will pay \$55. The fee includes lunch. Payment may be by check or credit card. Advanced registrations are required. SBE recertification credit can be earned from attending this event.

#### MAKE 1999 THE YEAR YOU BECOME SBE CERTIFIED

There are now four SBE Certification exam periods held each year in local chapters, plus, exams may be taken during the NAB Convention in Las Vegas. You have more opportunities to become certified - at times convenient to you. For more information about SBE Certification, see your Chapter Certification Chair or contact Linda Godby-Emerick, Certification Director at the SBE National Office at (317) 253-1640 or lgodby@sbe.org.

Exam Date(s)	Location Application	Deadline
February 10 - 20	Local Chapters	CLOSED

April 20	NAB Convention	March 22
June 11 - 21	Local Chapters	April 30
August 18 - 28	Local Chapters	July 5
November 12 - 22	Local Chapters	Sept. 30

#### SHORT CIRCUITS TO BE E-MAILED MONTHLY

Beginning this month, "Short Circuits" will expand its reach by being sent as an e-mail message to all SBE members who have provided an e-mail address for the member database at the SBE National Office. As it has to Chapter Chairmen for the last six years, "Short Circuits" will now provide monthly news and information in between issues of the SBE SIGNAL. "Short Circuits" has been accessible to all members for more than two years, since being posted on SBE's Web Site. As an e-mail message, we hope it will be a more convenient and effective communication tool. We will continue to post Short Circuits on the SBE Web Site each month and a hard copy version with chapter rosters will still be mailed to Chapter Chairmen quarterly.

#### MEMBERS ENCOURAGED TO PARTICIPATE IN NATIONAL GROUNDHOG JOB SHADOW DAY

The SBE Board has endorsed National Groundhog Job Shadow Day, February 2, 1999. Sponsored in part by "America's Promise, The Alliance For Youth," and chaired by USARet. General Colin Powell, National Groundhog Job Shadow Day will enable hundreds of thousands of students to participate in the second annual event that gives students a close-up look at how the skills they learn in school are put into action in the workplace. SBE Members are encouraged to participate by having one student shadow them during the workday on February 2. Local Junior Achievement offices will be facilitating the student placements. Contact your local Junior Achievement office. They will arrange for a student to shadow you on February 2nd.

#### MONTHLY HAMnet BRINGS SBE TO REMOTE AREAS

At 8:00 pm EST, 0000 GMT, on the second Sunday of each month, SBE Chapter 73 takes the air. Hal Hostetler, WA7BGX, of Tucson, Arizona, is the control station for the "meeting." Updates on SBE activities are given each month and participants can discuss technical issues and visit. HAMnet was originally begun to help serve members who lived too far to attend meetings of any regular chapter, but any amateur operator is welcome and encouraged to participate. Look for HAMnet on 14.205 mHz.



## SMPTE News & Notes

### January, 1999

#### New Officers Take Over January 1, 1999

Charles Jablonski, NBC, took office as SMPTE president, January 1, 1999, succeeding David L. George who served as president for the 1997-1998 term and now begins a two-year term as Past President. John Mason, Eastman Kodak Co. begins a term as Executive Vice-President. Thomas M. Jordan, Leitch, Inc., elected Conference Vice-President by the SMPTE Board of Governors, will fill out the term vacated by John Mason. Edward P. Hobson, Omneon Video Network, is the newly elected Secretary/Treasurer. Entering the second year of two-year terms are William C. Miller, ABC, Inc., Engineering Vice-President; Gavin Schutz, Four Media Co., Financial Vice-President; and Fung Lam, consultant, Sections Vice-President. Editorial Vice-President Robert B. Kisor, Paramount Pictures Corp., was reelected to a new two-year term.

#### Don't Miss the SMPTE Advanced Motion Imaging Conference in Orlando.

The 33rd SMPTE Advanced Motion Imaging Conference will be held February 25-27, 1999, at the Omni Rosen Hotel in Orlando, Fla. The theme of the conference is "Innovation, Implementation and Operations - The Challenges of Change." Program Chair is Clyde D. Smith, Speer Worldwide Digital. Oliver Peters, Century III Productions, is chair of the Saturday All-Day Seminar. Please see the flyer mailed with the January issue for information on the two-day technical session program and the all-day seminar. This will be one of the largest and most informative winter conferences SMPTE has had in a long time. Register now for this exceptional meeting. Use the registration and hotel forms in the brochure.

SMPTE Co-sponsors Specialty Pavilion at NATPE '99  
SMPTE will co-sponsor the Anifx Pavilion at NATPE '99, January 25-28, 1999, at the Ernest N. Morial Convention Center in New Orleans. Bringing together 17,000 executives from the global television industry, the NATPE Conference and Exhibition provides valuable insight into the latest trends in the industry. The Anifx Pavilion will showcase technological innovations in special effects production. Be sure to visit SMPTE in Booth 3724 to renew your membership; to purchase books, standards, and test materials; or to register for the winter conference. 140th Technical Conference Proceedings Now Available to Everyone.

Missed the October SMPTE conference in Pasadena?  
Catch up with Proceedings books! The Proceedings contain the actual papers, complete with illustrations, presented at the 140th SMPTE Technical Conference and Exhibit, October 28-31, 1998, in Pasadena. The 1998 Proceedings are \$50 for Members and \$65 for Non-members.

Proceedings are also available for the November 1997 Conference "Film and Video Origination in the Era of DTV Broadcasting." Don't miss out on important knowledge. Call Beverly Blakemore in publication sales today.

## OAB Conference Schedule

### Engineering (Schedule)

#### Friday

8:00 - 5:00 Exhibits Open  
9:30 - 12:00 Tektronix Seminar on Analog Video  
Jim Edwards, Tektronix, SMPTE Governor  
12:00 - 1:15 Exhibits/Lunch Break  
1:15 - 4:30 Tektronix Seminar on Digital Video Jim  
Edwards, Tektronix, SMPTE Governor  
2:00 - 3:15 Digital Radio Panel Discussion  
Nick Karter, Lucent Technologies  
Glenn Walden, U. S. Digital  
Digital Radio Express

#### Saturday

8:00 - 3:30 Exhibits Open  
9:00 - 9:50 Panel Discussion on HDTV - What's  
Available Now, Real World Participating -  
Phil Livingston, Panasonic, Dir. & GM of Digital  
Systems  
Bob Perry, MCEA, Director of Marketing Craig  
Beardsley, Sony, Mgr. of Adv. Technology Systems  
10:00 - 10:50 HDTV - News and Field Acquisition Phil  
Livingston, Panasonic, Dir. & GM of Digital  
Systems  
11:00 - 11:50 HDTV - Studio/Master Control Craig  
Beardsley, Sony, Mgr. of Technology Systems  
12:00 - 1:00 Sponsored Lunch - HDTV Regulatory  
Issues (programming, EAS, power, interference)  
Jim Wells, FCC Dallas Field Office  
1:15 - 2:05 HDTV - Consumer Sets, How They Will  
Work with Broadcast Signals Bob Perry, MCEA,  
Director of Marketing

The SBE Chapter 56 Inc. Newsletter is published on the 16<sup>th</sup> of each month, except December, and mailed to members and other interested parties.

**Name:**

**Title:**

**Company:**

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A \$15 annual donation is requested to cover publishing costs. Make checked payable to:  
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# SBE Sustaining Members

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